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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,682	10/24/2001	Alan P. Wolffe	8325-0015.20	1541

23419 7590 09/23/2003

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EXAMINER

ZHOU, SHUBO

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,682	WOLFFE ET AL.	
	Examiner	Art Unit	
	Shubo "Joe" Zhou	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-124 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-124 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

The art unit designated for this application has changed. Applicant(s) are hereby informed that future correspondence should be directed to Art Unit 1631.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR, 1.821(a)(1) and (a)(2) such as those in Figure 11. However, this application fails to comply with the requirements of 37 CFR, 1.821 through 1.825 because the sequences in Figure 11 are not followed by a sequence identifier (SEQ ID NO:X). Applicants are reminded that it is required that SEQ ID Nos be amended into the specification at each sequence, and that when a sequence is presented in a drawing regardless of the format or the manner of presentation of that sequence in the drawing, the sequence must still be included in the Sequence Listing and the sequence identifier must be used, either in the drawing or in the Brief Description of the Drawings. Applicants are given the same response time regarding this failure to comply as that set forth to respond to this office action. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

Restriction/Election Requirement

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

- I. Claims 1-15, drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a probe, classified in Class 435, subclass 6.
- II. Claims 16-26, drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a methylase, classified in Class 435, subclass 6.
- III. Claims 27-30, drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a nuclease, classified in Class 435, subclass 6.
- IV. Claims 31-37, drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a methylation-sensitive enzyme, classified in Class 435, subclass 6.
- V. Claims 38-46, drawn to a method for isolating a collection of polynucleotides involving selectively cleaving AT-rich sequences of cellular DNA, classified in Class 435, subclass 6.
- VI. Claims 47-53, drawn to a method for isolating a collection of polynucleotides involving fragmenting chromatin, classified in Class 435, subclass 6.
- VII. Claims 54-58, drawn to a method of mapping accessible regions of cellular chromatin, classified in Class 435, subclass 6.
- VIII. Claims 59-65, drawn to a method for generating a library of polynucleotides involving attaching an adapter, classified in Class 435, subclass 6.
- IX. Claim 66, drawn to a library of polynucleotides, classified in Class 536, subclass 23.1.
- X. Claims 67-71, drawn to a plurality of libraries of polynucleotides, classified in Class 536, subclass 23.1.
- XI. Claim 72, drawn to a database of a collection of polynucleotide, classified in Class 345, subclass 521.

XII. Claims 73-77, drawn to a method of comparing a plurality of cell populations, classified in Class 702, subclass 19.

XIII. Claims 78-93, drawn to a method of analyzing polynucleotide sequences involving providing a database, classified in Class 702, subclass 19.

XIV. Claims 94-99, drawn to a method of analyzing polynucleotide sequences involving sequences corresponding to accessible regions of cellular chromatin, classified in Class 702, subclass 19.

XV. Claim 100-124, drawn to a computer system for analyzing polynucleotide sequences, classified in Class 702, subclass 19.

The inventions are distinct, each from the other because of the following reasons:

The inventions of groups I-XIV are independent/distinct among each other because each of the inventions is directed to a separate and distinct invention. The methods as claimed are distinct both physically and functionally, require different process steps, reagents and parameters, and produce different products and/or results. For example, Group I is drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a probe; group II is drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a methylase; group III is drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a nuclease; group IV is drawn to a method for isolating a collection of polynucleotides involving treating cellular chromatin with a methylation-sensitive enzyme; group V is drawn to a method for isolating a collection of polynucleotides involving selectively cleaving AT-rich sequences of cellular DNA; group VI is drawn to a method for isolating a collection of polynucleotides involving fragmenting chromatin; group VII is drawn to a method of mapping accessible regions of cellular chromatin, etc. Consequently, these inventions have acquired a separate status in the art as a

separate subject for inventive effect and are usually published separately. The search for each of the above inventions is not co-extensive particularly with regard to the literature search.

The inventions of Group XV and Groups I-XIV are related as product and distinct processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the computer system of Group XV can be used in the distinct processes of Groups I-XIV. However, the computer systems of group XV as claimed can be used for other process such as analyzing protein sequences and/or structures, which are clearly distinct usage of such computer system thus supporting this restriction.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR § 1.143).

Applicant is reminded that a fully responsive communication will comprise a proper election of a group, a sequence and/or a species, as well as compliance with the sequence rules as set forth above. Examination cannot proceed without a complete response.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the

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Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to:

Shubo "Joe" Zhou, Ph.D., whose telephone number is (703) 605-1158. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst Tina Plunkett whose telephone number is (703)-305-3524, or to the Technical Center receptionist whose telephone number is (703) 308-0196.

S. "Joe" Zhou, Ph.D.



Patent Examiner